

REMARKS

The claims presented above relate to a process as described in the specification for producing a silicate, comprising reacting silica with a metal halide, sulfate or nitrate in a contiguous molten mass in a reactor where the product silicate is removed from the reactor in a molten state. This reaction is depicted in Figure 1 of the present specification, noted above, where contiguous molten mass 5 present in the reactor is the site of reaction between the silica and the metal halide, sulfate or nitrate. Molten silicate product is then removed in molten form, using in Figure 1 tap hole 10. Heat and turbulence are supplied to the molten mass by combustion emanating from submerged burners. This process, where reactants silica and metal halide, sulfate or nitrate are reacted in a contiguous molten mass is different and distinct from the situation occurring in a fluid bed reactor.

The prior claims in this case were rejected over a combination of several references. However, Roberts (U.S. 3,907,674) was used as a key reference in each rejection.

Roberts relates to the incineration of wastes in a fluid bed. As noted in the reference, this fluid bed is a gas-supported distribution of particles to which a fuel is added in order to provide a sort of burning vapor, plasma-like reaction zone for the wastes being incinerated. This reaction zone is quite different from that claimed in the present process, which uses a contiguous molten mass as a reaction zone wherein reactants undergo melting/conversion. In the claimed process the product silicate, produced in this molten mass reaction zone, is produced in the molten state and removed from the reactor in this state.

Roberts is further distinct from the present invention in that any alkaline metal silicate transiently formed in the fluid bed is purposefully reacted with added CaO, MgO, Fe₂O₃ and/or Al₂O₃ in order to convert any transient alkaline metal silicate into higher melting silicate compounds such as those described at column 4, lines 1-16. See for example column 2, lines 41-50 of Roberts. Clearly, Roberts goes to great lengths to avoid the production of alkaline metal silicate, thus clearly teaching away from the present invention process *for* producing alkaline metal silicate.

The other references applied against the claims in previous Official Actions (Haga, Won and Van Weert) fail to make up for that lacking in Roberts. For example, Van Weert relates also to fluidized beds while Won and Haga fail to show a process as presently claimed wherein silica and a metal halide, sulfate or nitrate are reacted in a contiguous molten mass in a reactor to produce silicate which is then removed from the reactor in a molten state. Accordingly, Applicants respectfully submit that the claims as presently worded are free of the prior art applied previously in this case, and that they are thus in condition for immediate allowance.

Should the Examiner find that the claims are not in condition for allowance it is requested that Applicants' below-signed attorney be contacted by telephone in order to expedite the issuance of allowable claims.

Respectfully submitted,

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A handwritten signature in black ink, appearing to read 'R. Treanor', written over the printed name of the attorney.

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